

CD AUTO CHANGER

# KDC-C515FM

## SERVICE MANUAL

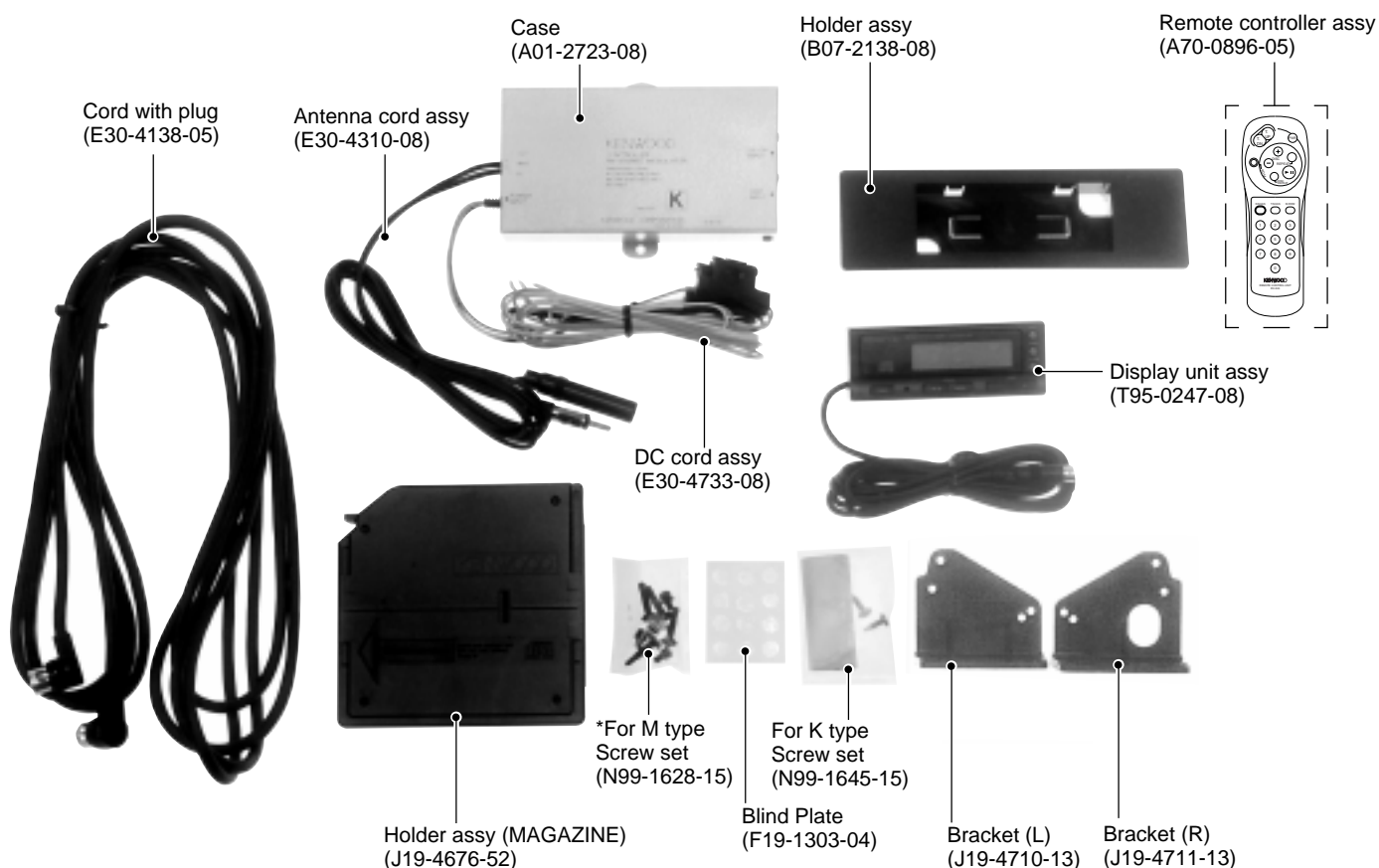
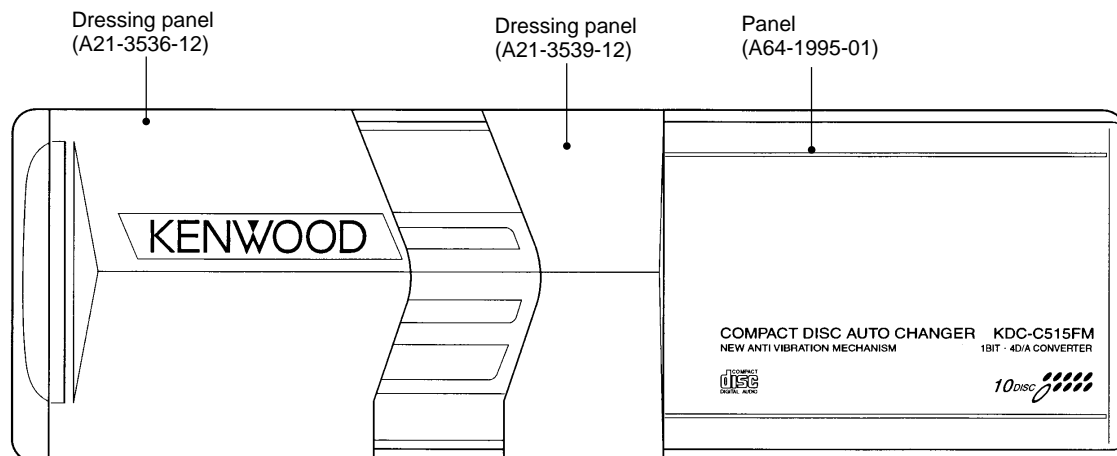
# KENWOOD

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B51-7559-00(S) 1794

When transporting these models, always attach CAUTION CARD and STEPPED SCREW (for transportation).

CAUTION CARD :B58-1275-04  
STEPPED SCREW :N09-4186-25

Service jig	Parts No.
For initial position setting	W05-0635-00

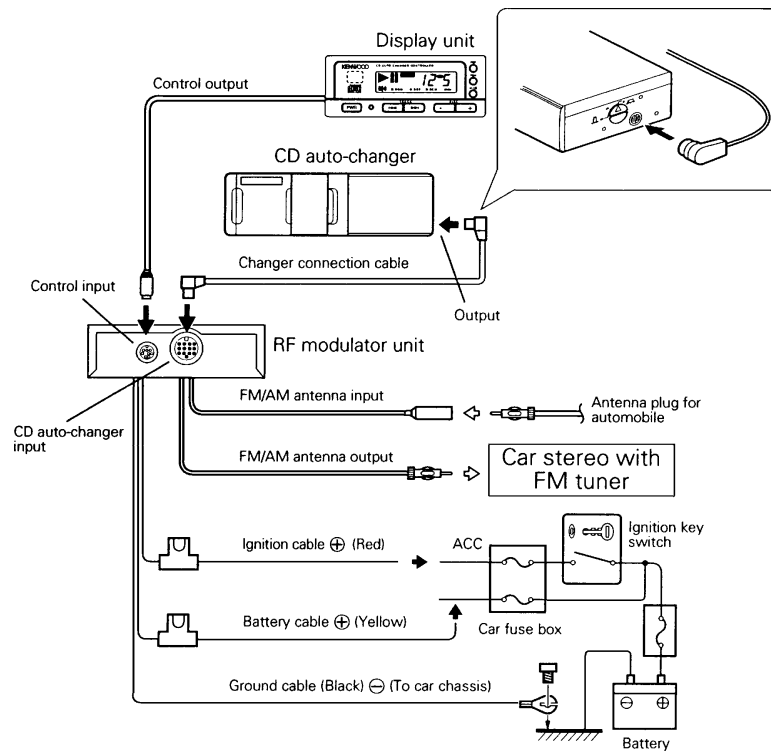


The MECHANISM OPERATION DESCRIPTION is same as model KDC-C710. Please refer to the service manual of model KDC-C710 (B51-7104-00).



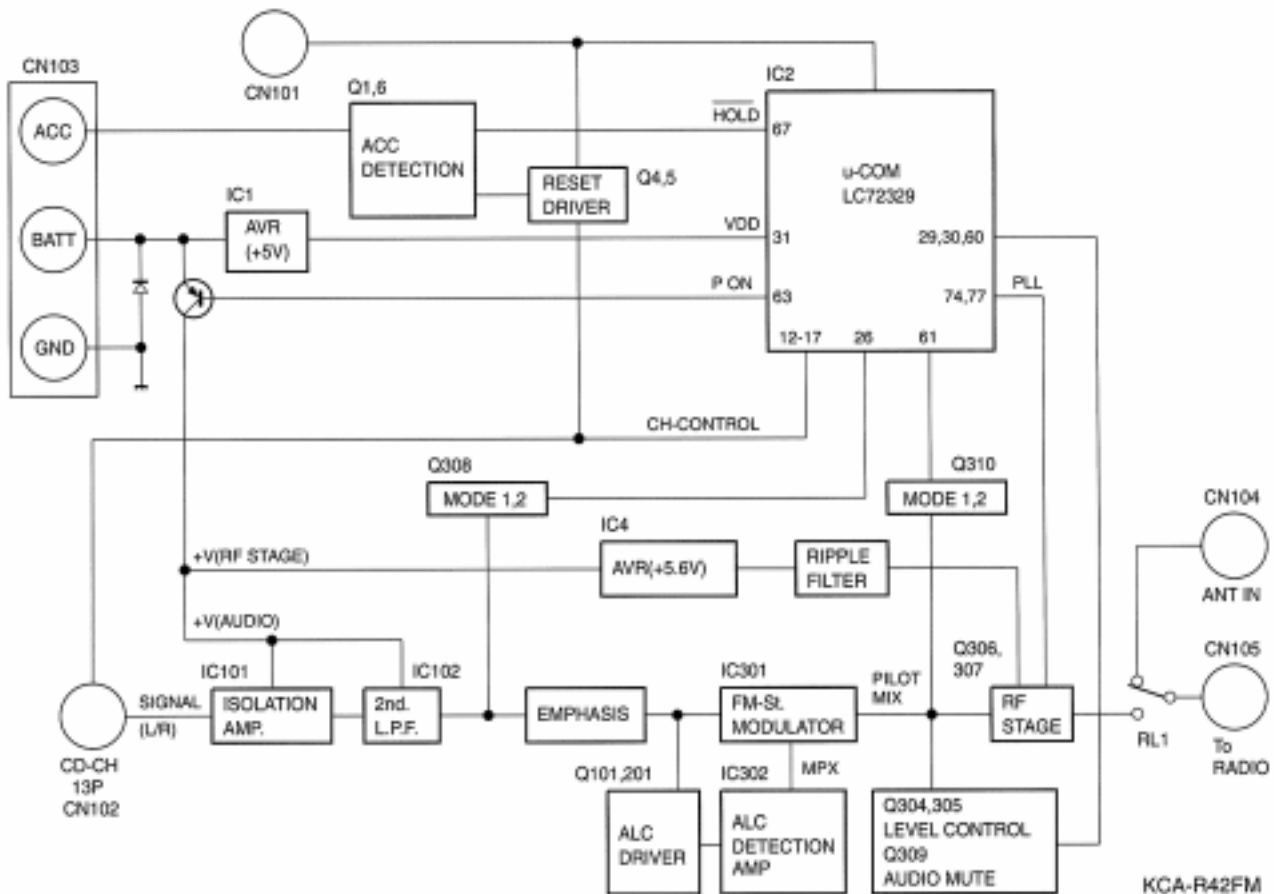
# KDC-C515FM

## CONNECTIONS



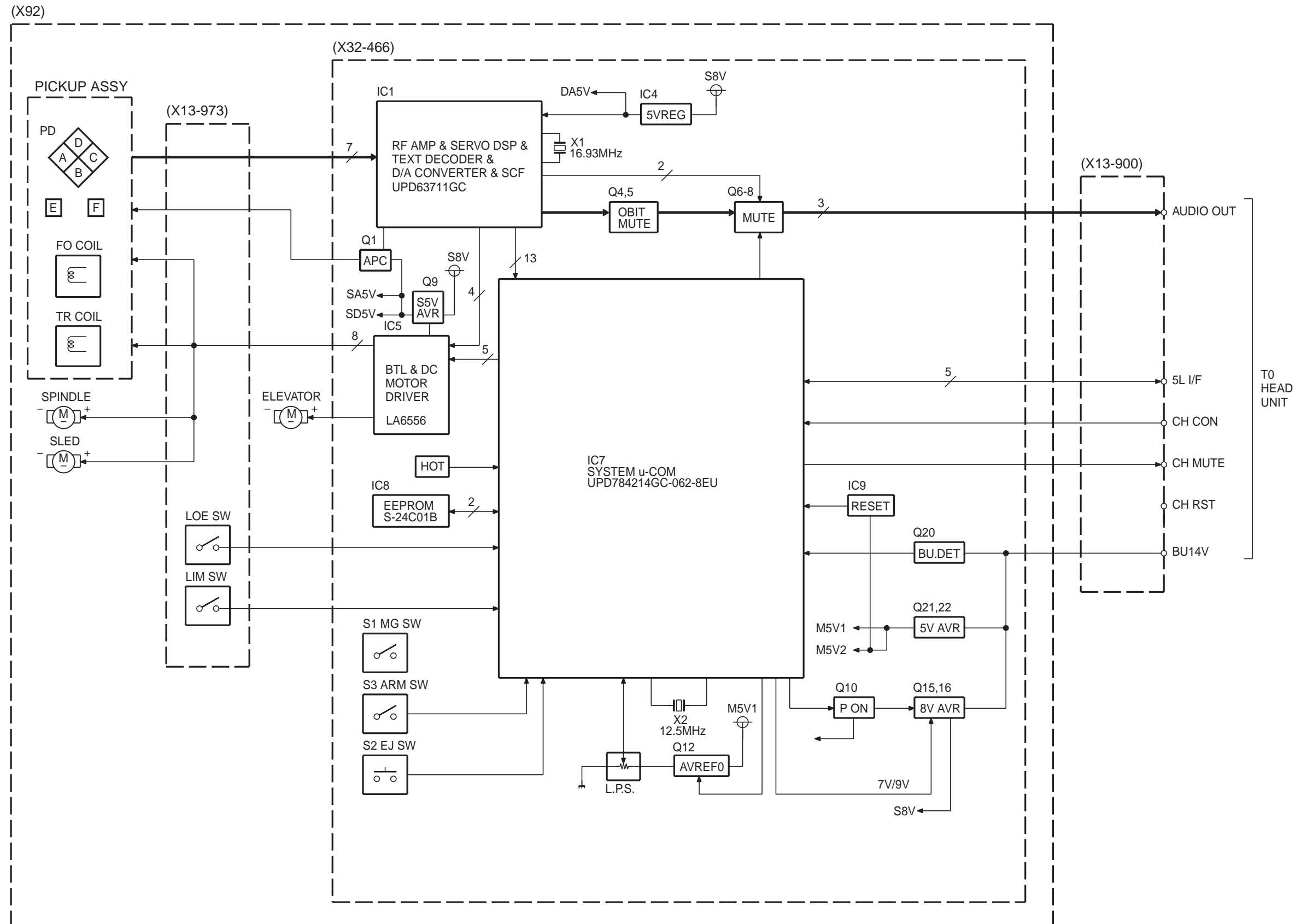
## BLOCK DIAGRAM

### RF MODULATOR



# KDC-C515FM KDC-C515FM

## BLOCK DIAGRAM



# KDC-C515FM

## MICROCOMPUTER DESCRIPTION

System  $\mu$ -com : UPD784214GC (X32- : IC7)

### ●Terminal description

Pin No.	Pin Name	I/O	Description
1	TOUT	O	Test output.
2	TSTB	O	Text data strobe signal.
3	-	O	NC.
4	FOK	I	H: Focusing OK. L: Focusing NG.
5	X OFF	O	H: Servo IC oscillation OFF.
6	RST	O	L: Servo IC reset.
7	AO	O	H: Parameter setting. L: Address register setting.
8	STB	O	L: Data latch.
9	VDD		Power supply connection.
10	X2	-	Oscillator.
11	X1	I	Oscillator.
12	VSS	I	GND.
13	XT2	-	NC.
14	XT1		GND.
15	RESET	I	L: Reset.
16	BSY		
17	MGSW	I	H: Holder IN. L: Holder OUT.
18	EJSW	I	H: Eject.
19	COMMSW	I	H: New. L: Old.
20	PACK	I	Text data pack sync signal.
21	CHCON	I	Changer control.
22	BUDET	I	B-U detection.
23	AVDD	I	A/D converter power supply.
24	AVREF	I	A/D converter reference voltage.
25	HOT	I	High temperature detection.
26	LPS	I	Position detection.
27	LOESW	I	L: Loading completed.
28	LIMSW	I	L: PU limit switch ON.
29	TOFF	I	Tracking off mode.
30	ADJSEL	I	H: Servo Adjustment OFF. L: Servo Adjustment ON.
31	TBANK	I	H: Gain UP. L: Normal.
32	SIM3		
33	AVSS		GND.
34	LPSCO	O	A/D converter power supply. H: OFF.
35	AMUTE	O	L: Muting ON.
36	AVREF1		A/D converter power supply.
37	SDI	I	Servo data input.
38	SDO	O	Servo data output.
39	SCK	O	Servo clock output.
40	DATAH	I	Data input from H/U.
41	DATAC	O	Data output to H/U.
42	HCLK	I/O	H: Clock input. L: Clock output.

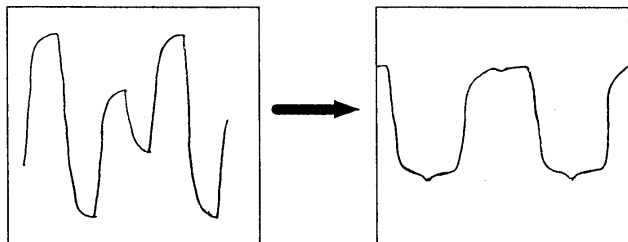
Pin No.	Pin Name	I/O	Description
43	REQC	O	Communication request to H/U.
44	CHMUTE	O	L: Muting ON.
45	TSO	O	Text data output.
46	TSI	I	Text data input.
47	TSCK	O	Text clock output.
48~55	A0~A7	O	S-RAM address setting.
56~63	D0~D7	I/O	S-RAM data input/output.
64~68	A8~A12	O	S-RAM address setting.
69~71	A13~A15	O	S-RAM enable control.
72	VSS		GND.
73, 74	A16, A17	O	S-RAM enable control.
75	RAMOK	O	H: OK.
76	ELVADJ	I	L: Adjustment mode.
77	RD	O	S-RAM read control.
78	WR	O	S-RAM write control.
79	WAIT	I	Wait during S-RAM access.
80	ASTB	O	NC.
81	VDD		Power supply connection.
82	RAMTEST	I	H: S-RAM check mode.
83	REQH	I	Communication request from H/U.
84	SP/LO+	O	Spindle/Loading + control.
85	SP/LO-	O	Spindle/Loading - control.
86	ELV+	O	Mechanism UP/DOWN control.
87	ELV-	O	Mechanism UP/DOWN control.
88	SIM1	I	L: Text. H: No Text.
89	SEARCH	O	H: Play. L: Search.
90, 91	TEST1, 2	I	L: Normal. H: Test.
92	8V/7V	O	H: 7 V. L: 8 V (Servo power supply).
93	SLG	I	H: +3 dB. L: 0 dB (Sled gain).
94	TEST/VPP	I	L: Flash ROM program mode OFF.
95	SRVSEL	I	H: Servo mode.
96	SLNSA	I	L: Sled non-sensible area ON.
97	SDA	I/O	EEPROM data input/output.
98	SCL	O	EEPROM clock output.
99	PON	O	L: Power ON.
100	ARMSW	I	H: Arm switch ON.

## ADJUSTMENT

### • RF MODULATOR UNIT

#### 1. DC balance adjustment (VR301)

While observing the waveform with a oscilloscope at pin 13 of IC301, adjust VR301 to minimize the waveform level.



#### 2. PLL control voltage adjustment (VC301)

First set the transmission frequency to \*87.9 MHz with the commander, then adjust VC301 so that the DC Voltage at the + pole of C317, measured using a multimeter or digital tester, is + 3V ( $\pm 0.1$  V).

#### 3. Modulation level adjustment (VR303)

The method using a standard receiver or tuner. Adjust VR303 so that the output level from the standard receiver or tuner is as specified.

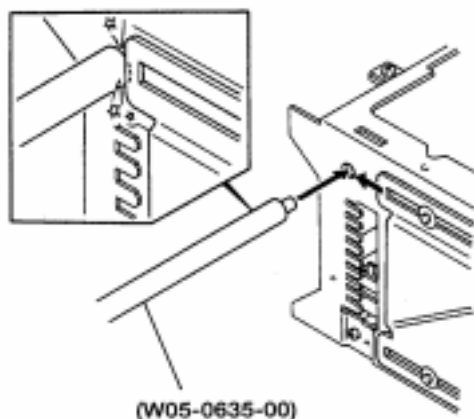
## ADJUSTMENT

### LPS initial position adjustment procedure

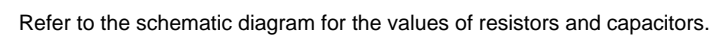
Connect the changer to the H/U. While holding the magazine eject button of the changer, press the reset button of the H/U and, in about 1 second, release the magazine eject button. Press the CD button of the H/U to enter the **E-88** mode. Move the mechanism deck to around the 1st stage by pressing the **DISC-** or **DISC+** button.

Insert the adjustment tool into the tool hole on the changer mechanism. Then press the **DISC+** button to move the mechanism deck until the mechanism's slider hits the adjustment tool. When the motor locks (stops) press the **REPEAT** key of the H/U.

When the **REPEAT** key is pressed, the mechanism moves automatically to the 1st stage and the initial position adjustment completes. (The data is written in the E2PROM at this time.)



1
2
3
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7



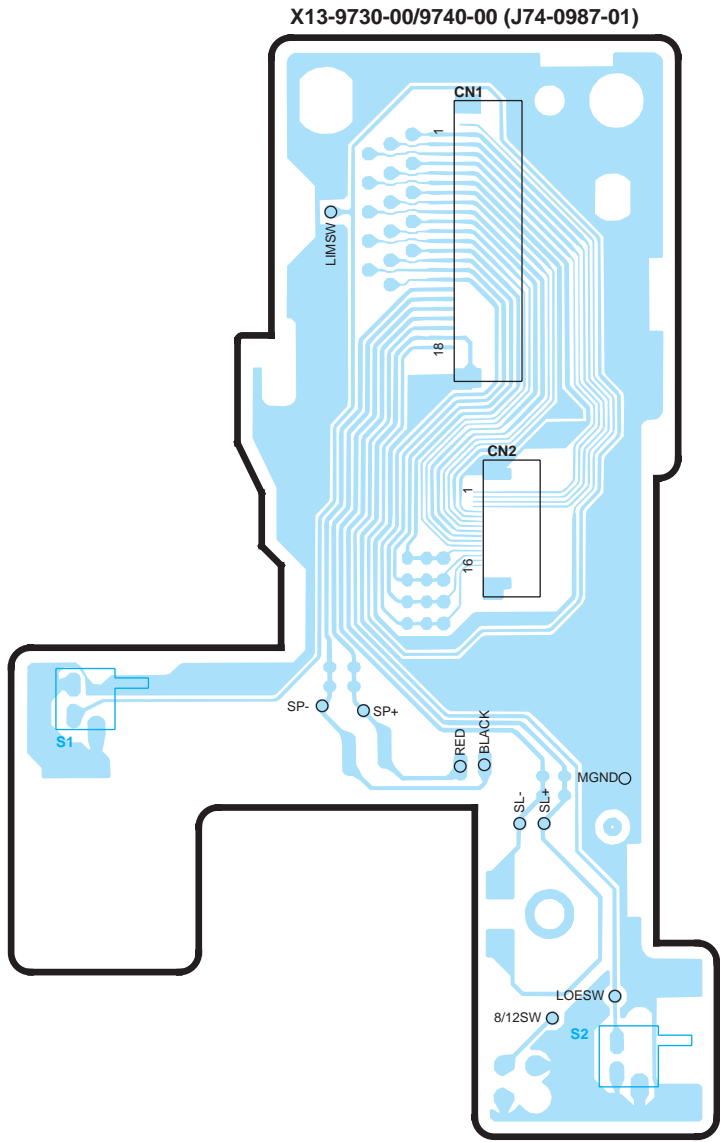
**X13-9730-00/9740-00 (J74-0987-01)**



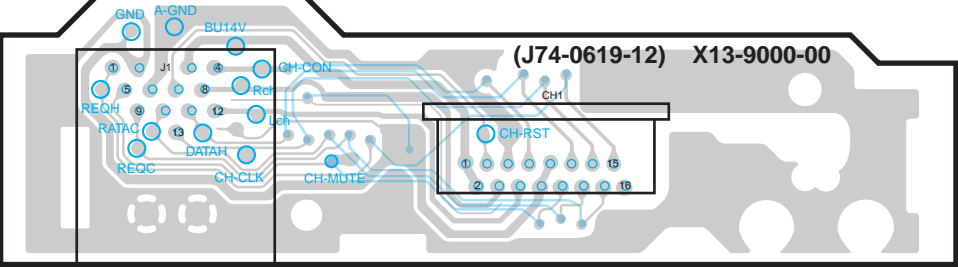


PC BOARD (Foil Side View)

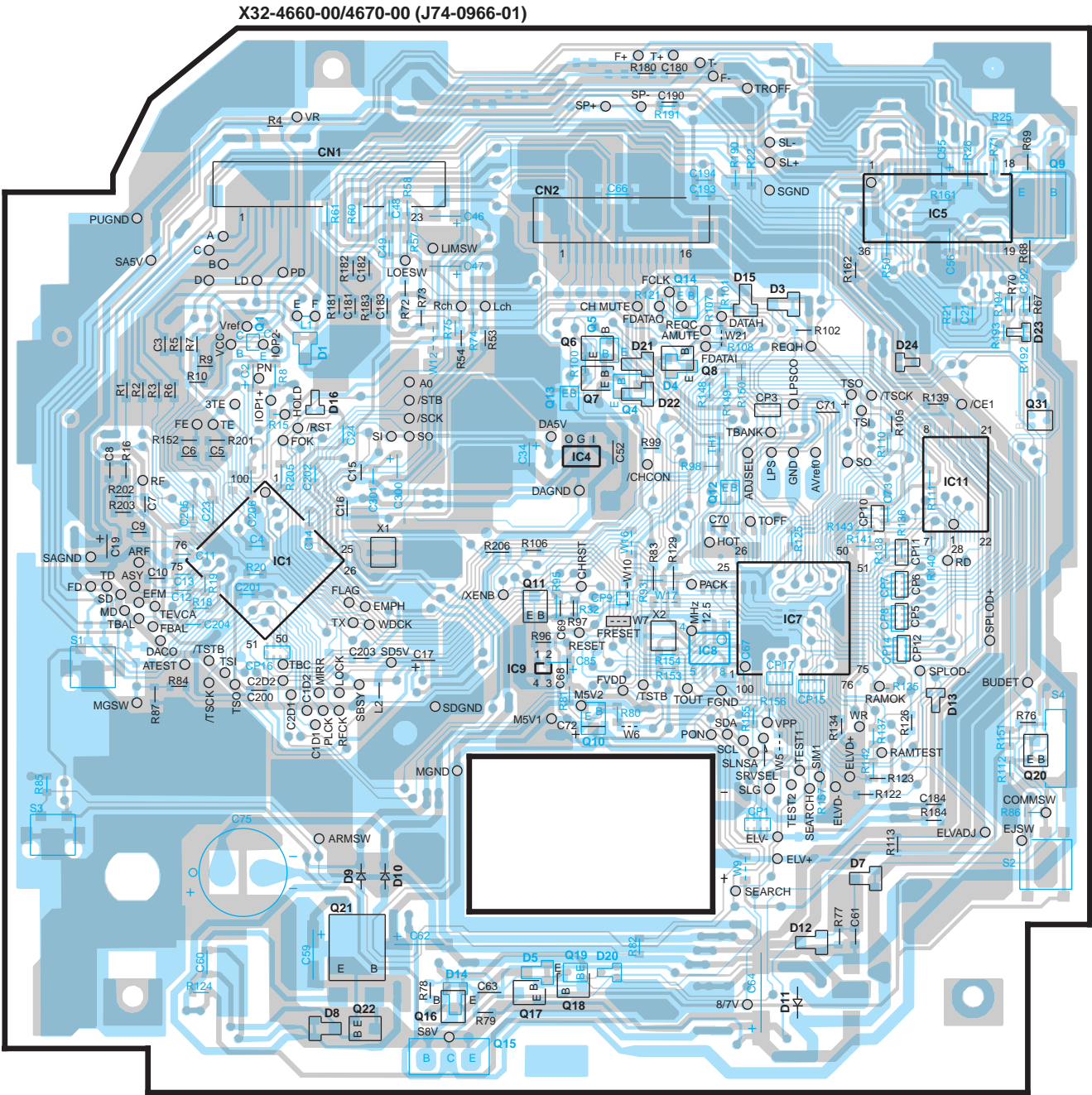
SUB-CIRCUIT UNIT (X13-9730-00)



SUB-CIRCUIT UNIT (X13-9000-00)



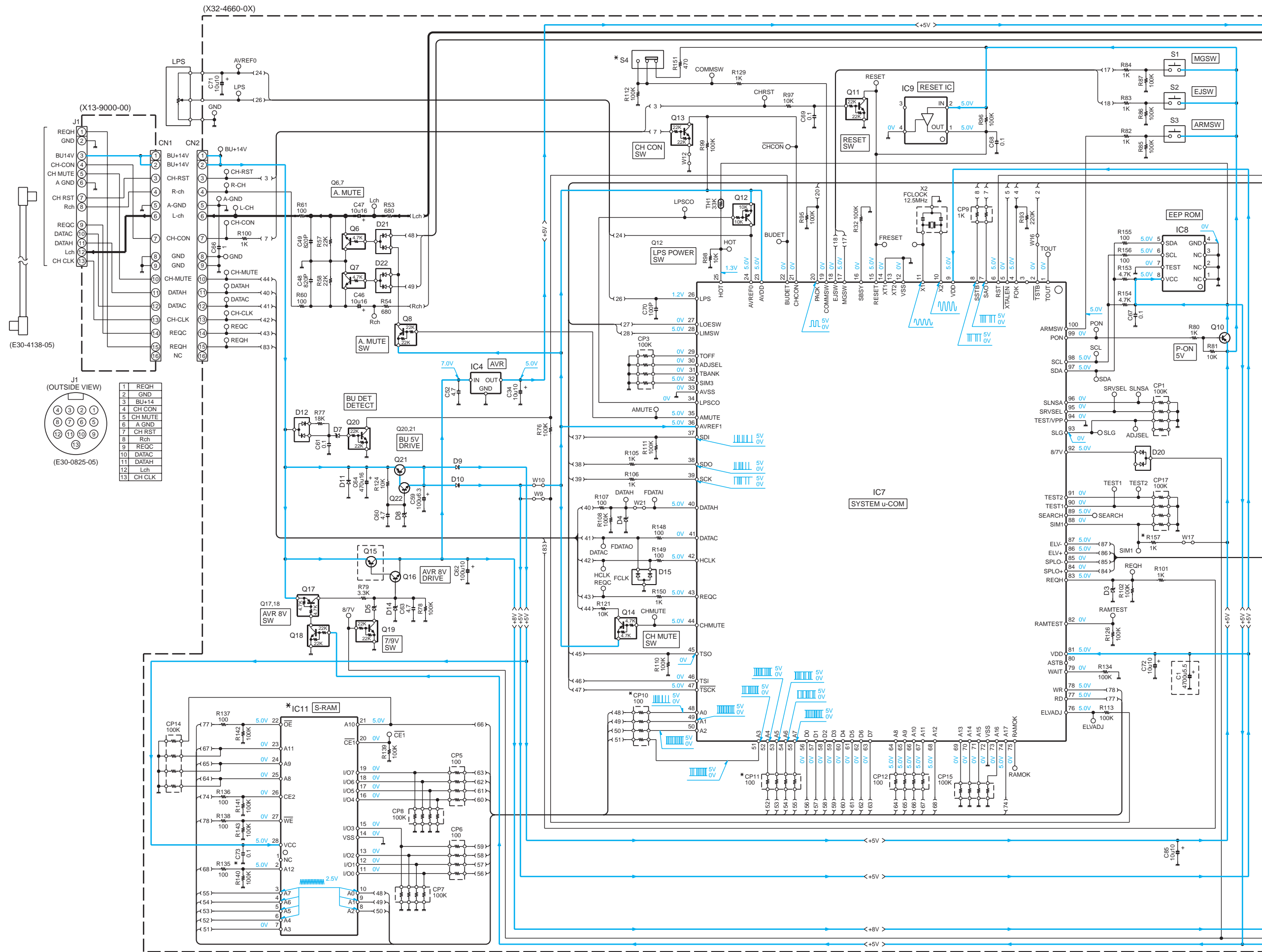
CD PLAYER UNIT (X32-4660-02)



Refer to the schematic diagram for the values of resistors and capacitors.









1

2

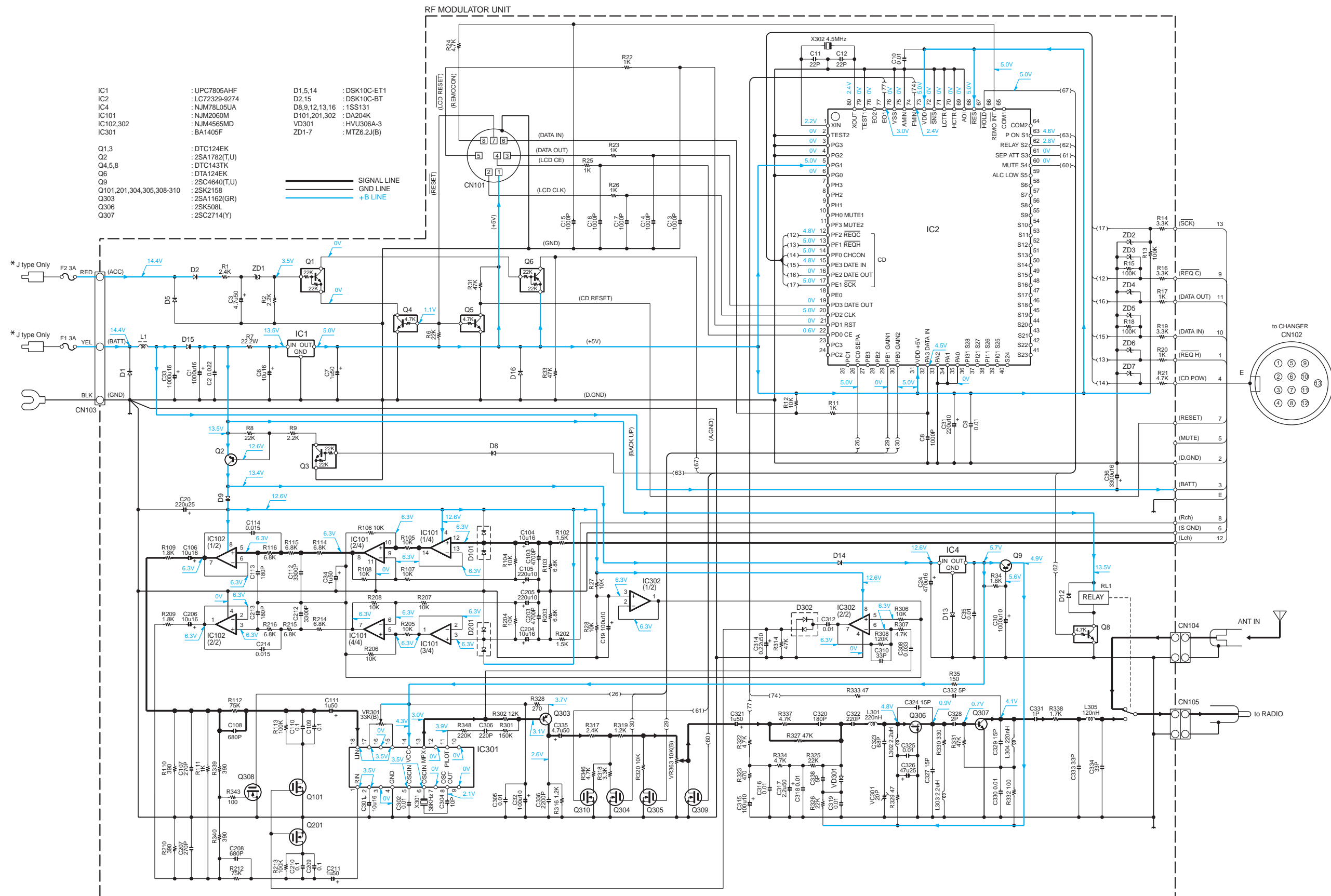
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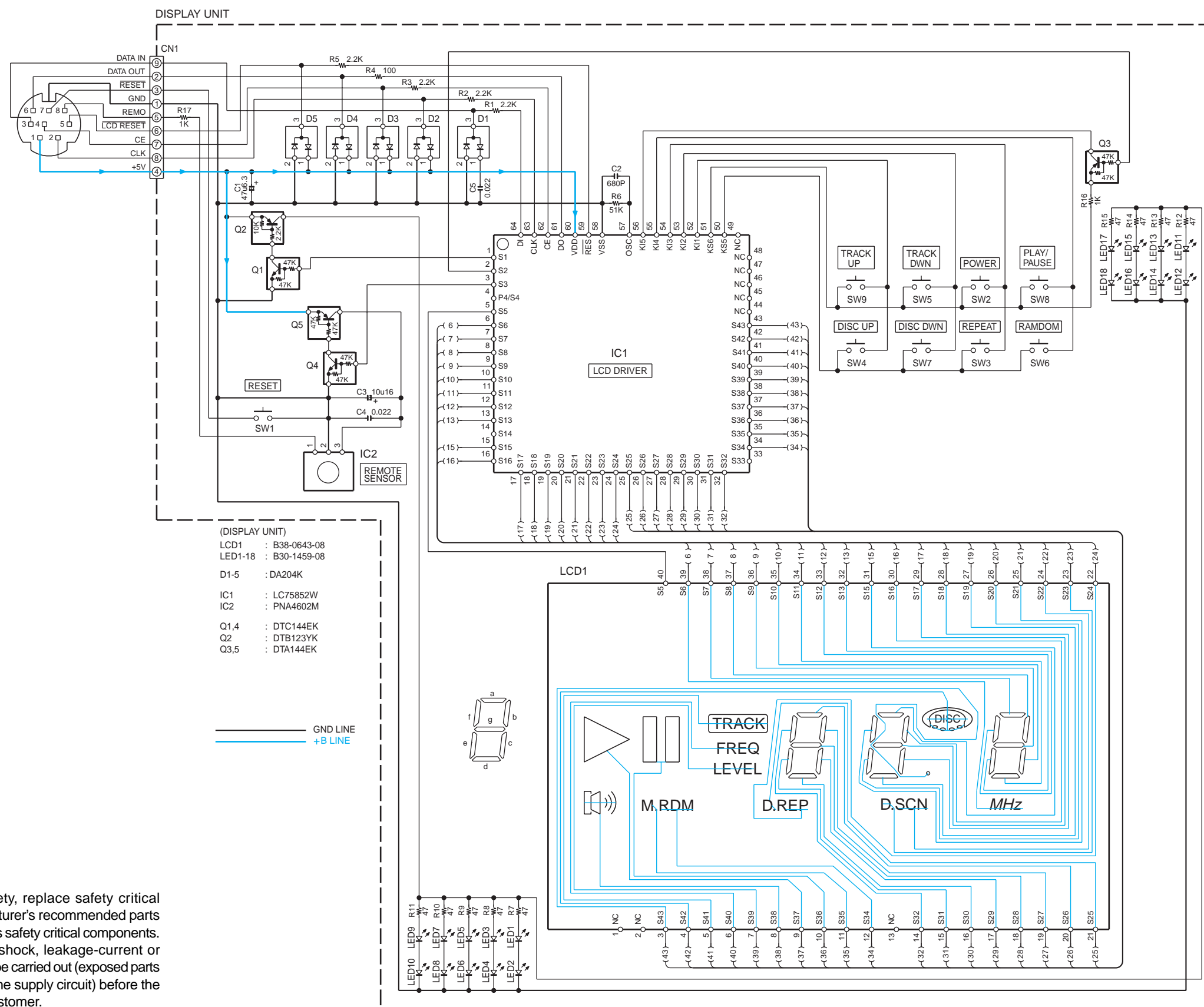
4

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6

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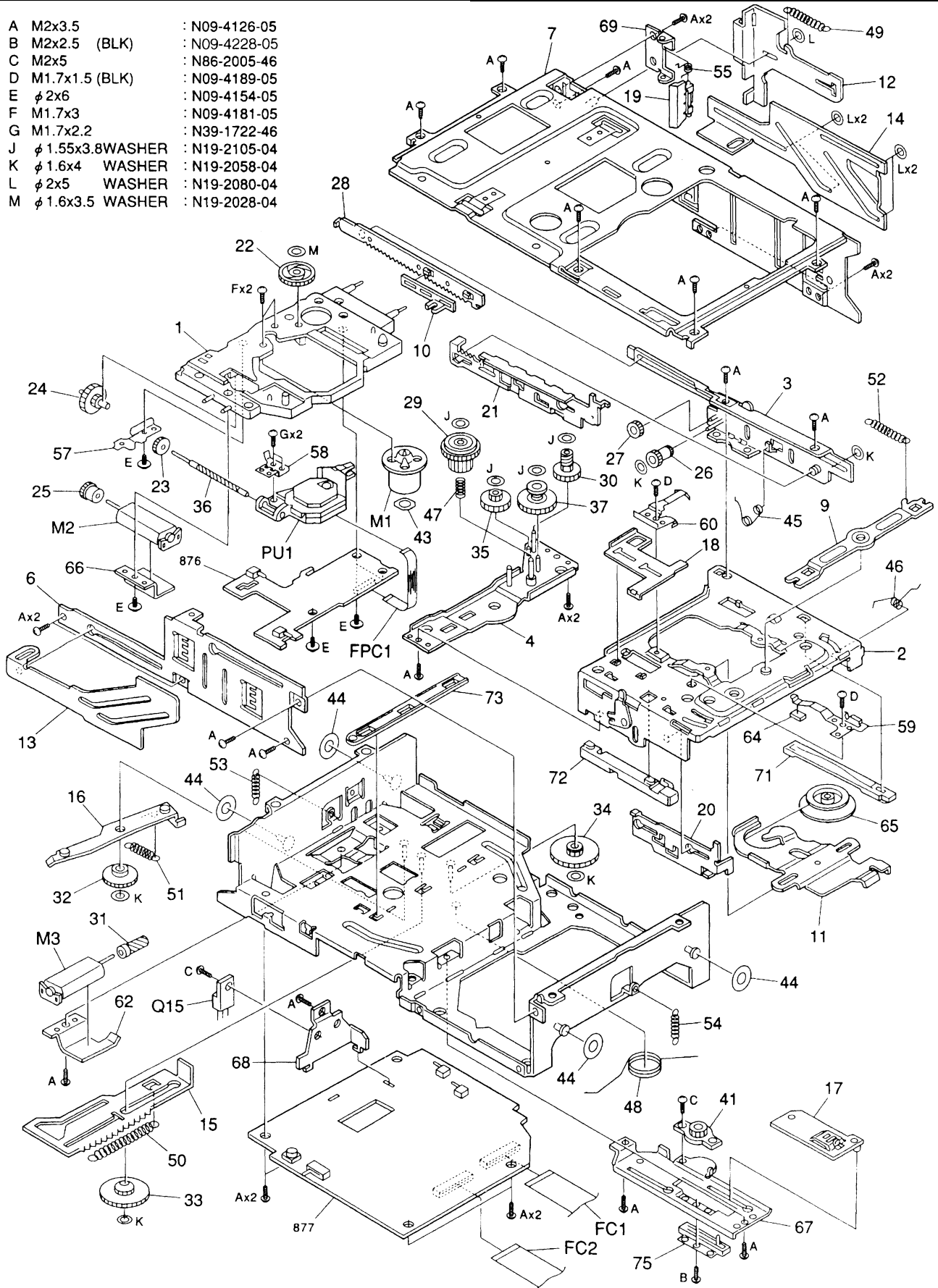
**CAUTION:**For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to, parts list). ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

# KDC-C515FM

## EXPLODED VIEW (MECHANISM)

A	M2x3.5	: N09-4126-05
B	M2x2.5 (BLK)	: N09-4228-05
C	M2x5	: N86-2005-46
D	M1.7x1.5 (BLK)	: N09-4189-05
E	φ 2x6	: N09-4154-05
F	M1.7x3	: N09-4181-05
G	M1.7x2.2	: N39-1722-46
J	φ 1.55x3.8WASHER	: N19-2105-04
K	φ 1.6x4 WASHER	: N19-2058-04
L	φ 2x5 WASHER	: N19-2080-04
M	φ 1.6x3.5 WASHER	: N19-2028-04

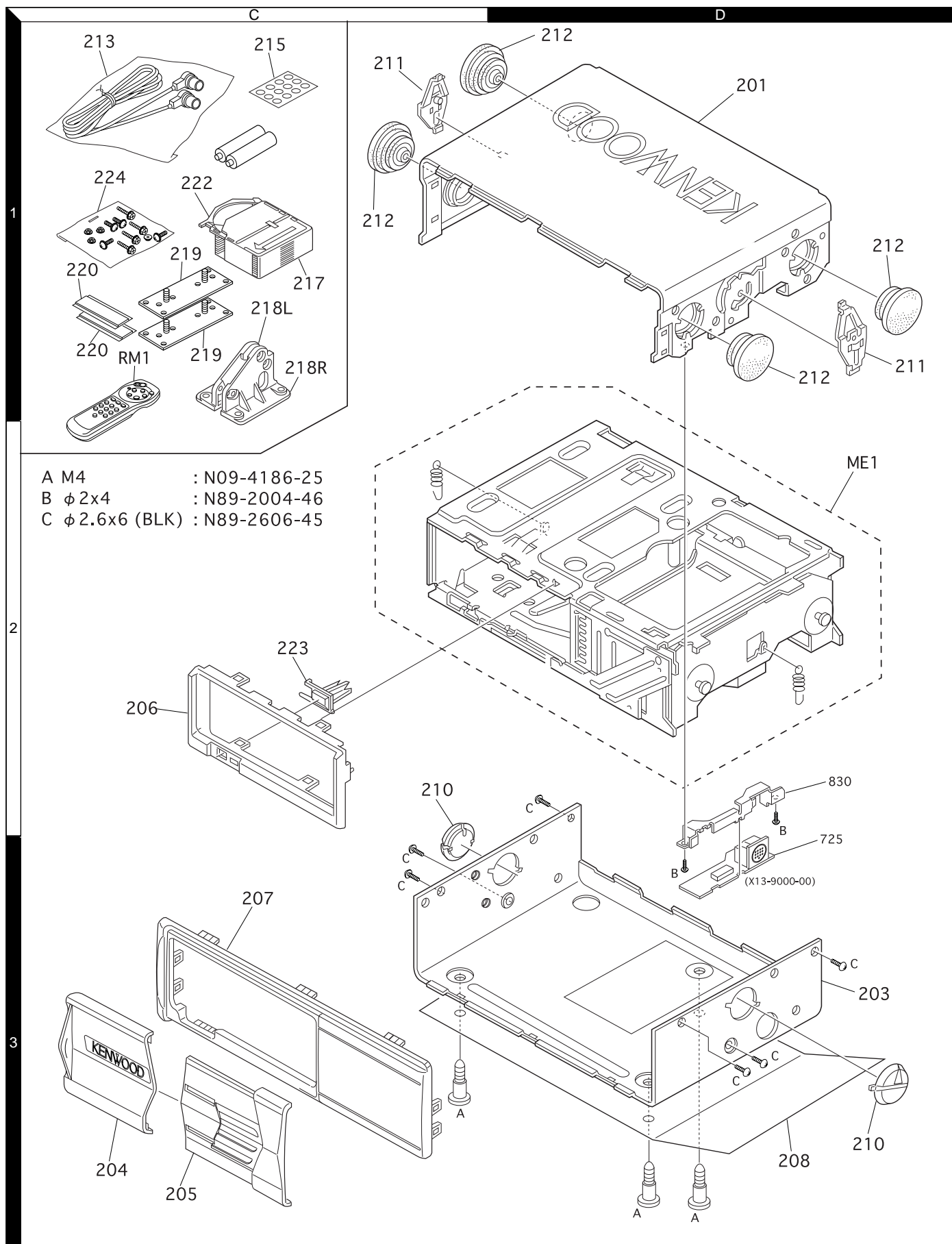


Parts with exploded numbers larger than 700 are not supplied.



## EXPLODED VIEW (UNIT)

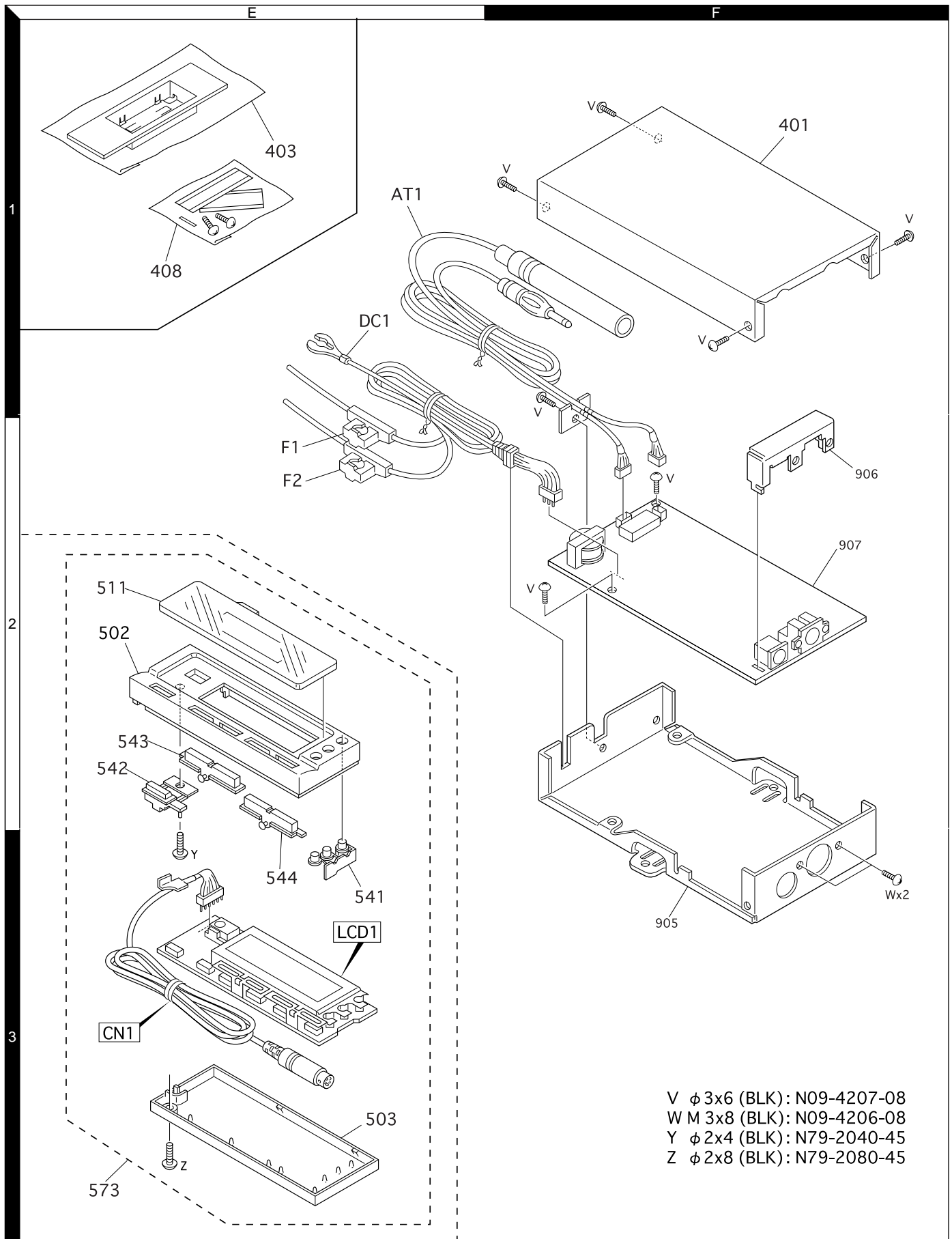
## EXPLODED VIEW (UNIT)



Parts with exploded numbers larger than 700 are not supplied.

# KDC-C515FM

## EXPLODED VIEW (UNIT)



# KDC-C515FM

## PARTS LIST


\* New Parts  
Parts without Parts No. are not supplied.  
Les articles non mentionnes dans le Parts No. ne sont pas fournis.  
Teile ohne Parts No. werden nicht geliefert.

KDC-C515FM  
SUB CIRCUIT UNIT(X13-9000-00)  
SUB CIRCUIT UNIT(X13-9730-00)  
CD PLAYER UNIT(X32-4660-02)

Ref.No.	A d d	N e w	Parts No.	Description	Dest inati on
KDC-C515FM					
201	1D		A01-2655-01	METALLIC CABINET	
203	3D		A10-4368-21	CHASSIS	
204	3C		A21-3536-12	DRESSING PANEL	
205	3C		A21-3539-12	DRESSING PANEL	
206	2C		A22-2236-02	SUB PANEL	
207	3C	*	A64-1995-01	PANEL	
RM1	1C		A70-0896-05	REMOTE CONTROLLER ASSY	
208	3D		B58-1275-04	CAUTION CARD	
-			B46-0100-50	WARRANTY CARD	
-			B58-1236-04	CAUTION CARD	
-			B58-1273-04	CAUTION CARD (P1,PRA,A6,1)	
-			B64-1570-00	INSTRUCTION MANUAL E,F,S,P	K3
-		*	B64-1573-00	INSTRUCTION MANUAL E,T	M3
-		*	B64-1595-00	INSTRUCTION MANUAL ARA	M3
210	3D		D10-4204-03	ARM	
211			D10-4033-14	LEVER	
212	1D		D39-0226-03	DAMPER	
213	1C		E30-4138-05	CORD WITH PLUG	
215	1C		F19-1303-04	BLIND PLATE	
-			H02-0812-13	INNER CARTON CASE	
-			H10-4553-22	POLYSTYRENE FOAMED FIXTURE	
-			H13-1706-04	CARTON BOARD	
-			H25-0337-04	PROTECTION BAG (180X300X0.03)	
-			H25-1115-04	PROTECTION BAG	
-		*	H54-1692-04	ITEM CARTON CASE	
217	1C		J19-4676-52	HOLDER ASSY	
218L	1C		J19-4710-13	BRACKET	
218R	1C		J19-4711-13	BRACKET	
219	1C		J21-7775-04	MOUNTING HARDWARE ASSY	M3
220	1C		J69-0506-04	ADHESIVE TAPE	M3
222	1C		J99-0604-21	TRAY	
223	2C		K24-1770-04	KNOB	
224	1C		N99-1628-15	SCREW SET	M3
224	1C		N99-1645-15	SCREW SET	K3
A	3D		N09-4186-25	STEPPED SCREW	
B	2D		N89-2004-46	BINDING HEAD TAPTITE SCREW	
C	3D		N89-2606-45	BINDING HEAD TAPTITE SCREW	
ME1	2D		X92-3630-01	MECHANISM ASSY	
SUB CIRCUIT UNIT (X13-9000-00)					
CN1		*	E40-9555-05	FLAT CABLE CONNECTOR	
J1		*	E56-0825-05	CYLINDRICAL RECEPTACLE	
SUB CIRCUIT UNIT (X13-9730-00)					
CN1			E40-9487-05	FLAT CABLE CONNECTOR	
CN2			E40-9536-05	FLAT CABLE CONNECTOR	
S1 ,2			S74-0811-05	MICRO SWITCH	

Ref.No.	A d d	N e w	Parts No.	Description	Dest inati on
CD PLAYER UNIT (X32-4660-02)					
C2			C92-0628-05	CHIP-TAN 10UF 10WV	
C3			CK73FB1H682K	CHIP C 6800PF K	
C4			CK73FB1H153K	CHIP C 0.015UF K	
C5			CC73FCH1H820J	CHIP C 82PF J	
C6			CC73FCH1H151J	CHIP C 150PF J	
C7			CC73FCH1H040C	CHIP C 4.0PF C	
C8			CC73FCH1H220J	CHIP C 22PF J	
C9			CK73FB1A105K	CHIP C 1.0UF K	
C10			CK73FB1H222K	CHIP C 2200PF K	
C11			CK73FB1H472K	CHIP C 4700PF K	
C12			CK73FB1H103K	CHIP C 0.010UF K	
C13 -16			CK73FB1C104K	CHIP C 0.10UF K	
C17			C92-1463-05	TANTALUM CAPACITOR	
C19			C92-1463-05	TANTALUM CAPACITOR	
C21			CK73FB1H821K	CHIP C 820PF K	
C23			CK73EB1A475K	CHIP C 4.7UF K	
C24			CK73FB1H102K	CHIP C 1000PF K	
C34			C92-0628-05	CHIP-TAN 10UF 10WV	
C46 ,47			C92-1393-05	ELECTRO 10UF 16WV	
C48 ,49			CK73FB1H821K	CHIP C 820PF K	
C52			CK73EB1A475K	CHIP C 4.7UF K	
C55			C92-0628-05	CHIP-TAN 10UF 10WV	
C56			CK73EB1A475K	CHIP C 4.7UF K	
C59			C92-1390-05	ELECTRO 100UF 6.3WV	
C60			CK73EB1A475K	CHIP C 4.7UF K	
C61			CK73FB1C104K	CHIP C 0.10UF K	
C62			C92-1392-05	ELECTRO 100UF 10WV	
C63			CK73EB1A475K	CHIP C 4.7UF K	
C64			C92-1388-05	ELECTRO 470UF 16WV	
C66			CK73EB1C105K	CHIP C 1.0UF K	
C67 -69			CK73FB1C104K	CHIP C 0.10UF K	
C70			CC73FCH1H101J	CHIP C 100PF J	
C71			C92-0628-05	CHIP-TAN 10UF 10WV	
C72			C92-1463-05	TANTALUM CAPACITOR	
C85			C92-0628-05	CHIP-TAN 10UF 10WV	
C180-184			CK73FB1C104K	CHIP C 0.10UF K	
C190			CK73FB1H821K	CHIP C 820PF K	
C192			CK73FB1C334K	CHIP C 0.33UF K	
C193			CK73FB1A684K	CHIP C 0.68UF K	
C194			CK73FB1C104K	CHIP C 0.10UF K	
C200-205			CK73FB1C104K	CHIP C 0.10UF K	
C206			CK73EB1H104K	CHIP C 0.10UF K	
C300			C92-0712-05	TANTALUM CAPACITOR	
C301			CK73FB1C104K	CHIP C 0.10UF K	
CN1			E40-9338-05	FLAT CABLE CONNECTOR	
CN2			E40-9404-05	FLAT CABLE CONNECTOR	
L1			L40-1001-78	SMALL FIXED INDUCTOR(10UH)	
L2			L92-0322-05	CHIP FERRITE	
X1			L78-0596-05	RESONATOR	
X2			L78-0568-05	RESONATOR	
CP1			R90-0720-05	MULTI-COMP 100K X4	
CP3			R90-0720-05	MULTI-COMP 100K X4	

K3: USA M3: Other Areas

 indicates safety critical components.

## PARTS LIST

\* New Parts

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Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

## CD PLAYER UNIT(X32-4660-02)

Ref.No.	A d d	N e w	Parts No.	Description	Dest inati on
CP5 ,6			R90-1014-05	MULTI-COMP 100 X4	
CP7 ,8			R90-0720-05	MULTI-COMP 100K X4	
CP9			R90-0725-05	MULTI-COMP 1K X2	
CP12			R90-1014-05	MULTI-COMP 100 X4	
CP14,15			R90-0720-05	MULTI-COMP 100K X4	
CP16			R90-0724-05	MULTI-COMP 1K X4	
CP17			R90-0720-05	MULTI-COMP 100K X4	
R1 -3			RK73FB2A163J	CHIP R 16K J 1/10W	
R4			RK73FB2A391J	CHIP R 390 J 1/10W	
R5			RK73FB2A393J	CHIP R 39K J 1/10W	
R6			RK73FB2A163J	CHIP R 16K J 1/10W	
R7			RK73FB2A393J	CHIP R 39K J 1/10W	
R8			RK73EB2B100J	CHIP R 10 J 1/8W	
R9 ,10			RK73FB2A105J	CHIP R 1.0M J 1/10W	
R15			RK73FB2A104J	CHIP R 100K J 1/10W	
R16			RK73FB2A152J	CHIP R 1.5K J 1/10W	
R18			RK73FB2A103J	CHIP R 10K J 1/10W	
R19			RK73FB2A333J	CHIP R 33K J 1/10W	
R20			RK73FB2A104J	CHIP R 100K J 1/10W	
R21			RK73FB2A103J	CHIP R 10K J 1/10W	
R22			RK73FB2A562J	CHIP R 5.6K J 1/10W	
R25			RK73FB2A113J	CHIP R 11K J 1/10W	
R26			RK73EB2B123J	CHIP R 12K J 1/8W	
R32			RK73FB2A104J	CHIP R 100K J 1/10W	
R50			RK73EB2B103J	CHIP R 10K J 1/8W	
R53 ,54			RK73FB2A681J	CHIP R 680 J 1/10W	
R57 ,58			RK73FB2A223J	CHIP R 22K J 1/10W	
R60 ,61			RK73EB2B101J	CHIP R 100 J 1/8W	
R67			RK73FB2A124J	CHIP R 120K J 1/10W	
R68			RK73EB2B124J	CHIP R 120K J 1/8W	
R69 ,70			RK73FB2A303J	CHIP R 30K J 1/10W	
R71			RK73FB2A912J	CHIP R 9.1K J 1/10W	
R72 ,73			RK73FB2A101J	CHIP R 100 J 1/10W	
R74 ,75			RK73FB2A223J	CHIP R 22K J 1/10W	
R76			RK73FB2A104J	CHIP R 100K J 1/10W	
R77			RK73FB2A183J	CHIP R 18K J 1/10W	
R78			RK73FB2A104J	CHIP R 100K J 1/10W	
R79			RK73FB2A332J	CHIP R 3.3K J 1/10W	
R80			RK73FB2A102J	CHIP R 1.0K J 1/10W	
R81			RK73FB2A103J	CHIP R 10K J 1/10W	
R82			RK73FB2A102J	CHIP R 1.0K J 1/10W	
R83			RK73EB2B102J	CHIP R 1.0K J 1/8W	
R84			RK73FB2A102J	CHIP R 1.0K J 1/10W	
R85 -87			RK73FB2A104J	CHIP R 100K J 1/10W	
R93			RK73EB2B224J	CHIP R 220K J 1/8W	
R95			RK73EB2B104J	CHIP R 100K J 1/8W	
R96			RK73FB2A104J	CHIP R 100K J 1/10W	
R97 ,98			RK73FB2A103J	CHIP R 10K J 1/10W	
R99			RK73FB2A104J	CHIP R 100K J 1/10W	
R100,101			RK73FB2A102J	CHIP R 1.0K J 1/10W	
R102			RK73FB2A104J	CHIP R 100K J 1/10W	
R105,106			RK73FB2A102J	CHIP R 1.0K J 1/10W	
R107			RK73FB2A101J	CHIP R 100 J 1/10W	
R108			RK73FB2A104J	CHIP R 100K J 1/10W	
R110-113			RK73FB2A104J	CHIP R 100K J 1/10W	

Ref.No.	A d d	N e w	Parts No.	Description	Dest inati on
R121			RK73FB2A103J	CHIP R 10K J 1/10W	
R122,123			RK73FB2A102J	CHIP R 1.0K J 1/10W	
R124			RK73FB2A103J	CHIP R 10K J 1/10W	
R126			RK73FB2A104J	CHIP R 100K J 1/10W	
R129			RK73EB2B102J	CHIP R 1.0K J 1/8W	
R134			RK73FB2A104J	CHIP R 100K J 1/10W	
R135-138			RK73FB2A101J	CHIP R 100 J 1/10W	
R139-143			RK73FB2A104J	CHIP R 100K J 1/10W	
R148,149			RK73FB2A101J	CHIP R 100 J 1/10W	
R150			RK73FB2A102J	CHIP R 1.0K J 1/10W	
R151			RK73FB2A471J	CHIP R 470 J 1/10W	
R152			RK73FB2A623J	CHIP R 62K J 1/10W	
R153,154			RK73FB2A472J	CHIP R 4.7K J 1/10W	
R155,156			RK73FB2A101J	CHIP R 100 J 1/10W	
R157			RK73FB2A102J	CHIP R 1.0K J 1/10W	
R161			RK73FB2A163J	CHIP R 16K J 1/10W	
R162			RK73FB2A472J	CHIP R 4.7K J 1/10W	
R180-184			RK73FB2A100J	CHIP R 10 J 1/10W	
R190			RK73FB2A472J	CHIP R 4.7K J 1/10W	
R191			RK73FB2A123J	CHIP R 12K J 1/10W	
R192,193			RK73FB2A683J	CHIP R 68K J 1/10W	
R194			RK73FB2A224J	CHIP R 220K J 1/10W	
R201			RK73FB2A104J	CHIP R 100K J 1/10W	
R202,203			RK73FB2A103J	CHIP R 10K J 1/10W	
R205,206			RK73EB2B102J	CHIP R 1.0K J 1/8W	
W5 -7			R92-2052-05	CHIP R 0 J 1/10W	
W9 ,10			R92-2053-05	CHIP R 0 J 1/8W	
W12			R92-2053-05	CHIP R 0 J 1/8W	
W16 ,17			R92-2053-05	CHIP R 0 J 1/8W	
W21			R92-2052-05	CHIP R 0 J 1/10W	
S1			S68-0823-05	PUSH SWITCH	
S2			S70-0838-05	TACT SWITCH	
S3			S68-0823-05	PUSH SWITCH	
D1			DAP202K	DIODE	
D3 ,4			MA3056-M	ZENER DIODE	
D5			MAZ90750M	ZENER DIODE	
D7			MA3056-M	ZENER DIODE	
D8			MAZ90620M	ZENER DIODE	
D9 ,10			M1F60	DIODE	
D111			SR154-400	DIODE	
D12			DA204K	DIODE	
D13			DAN202U	DIODE	
D14			MAZ90910M	ZENER DIODE	
D15			DAP202K	DIODE	
D16			DAP202U	DIODE	
D20			DAN202U	DIODE	
D21 ,22			DAN202K	DIODE	
D23 ,24			DAN202U	DIODE	
IC1			UPD63711GC	MOS-IC	
IC4			KIA78L05F	ANALOGUE IC	
IC5			LA6556	ANALOGUE IC	
IC7			UPD784214GC062	MI-COM IC	
IC8			S-24C01B	MEMORY IC	
IC9			S-80830ANNP	MOS-IC	

K3: USA M3: Other Areas

⚠ indicates safety critical components.

# KDC-C515FM

## PARTS LIST

\* New Parts

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CD PLAYER UNIT(X32-4660-02)

MECHANISM ASSY(X92-3630-01)

Ref.No.	A d d	N e w	Parts No.	Description	Dest inati on
Q1 Q4 Q5 Q6 ,7 Q8			MCH6101 DTA124EK DTA124EUA DTC343TK DTA124EK	TRANSISTOR DIGITAL TRANSISTOR DIGITAL TRANSISTOR DIGITAL TRANSISTOR DIGITAL TRANSISTOR	
Q9 Q10 Q11 Q12 Q13			2SB1202 2SB1295 DTC124EK DTA124EUA DTC124EUA	TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR DIGITAL TRANSISTOR DIGITAL TRANSISTOR	
Q14 Q16 Q17 Q18 Q19			DTA143EK 2SC2412K DTA143EK DTC124EK DTC124EUA	DIGITAL TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR DIGITAL TRANSISTOR DIGITAL TRANSISTOR	
Q20 Q21 Q22 Q31 TH1			DTC124EK 2SB1202 2SC2412K DTC124EUA NTH5G20B33K07	DIGITAL TRANSISTOR TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR THERMISTOR	
MECHANISM ASSY (X92-3630-01)					
1 2 3 4 5	1A 2B 1B 2B 3B	*	A10-4700-13 A10-4231-22 A10-4233-63 A10-4235-84 A10-4237-32	CHASSIS ASSY CHASSIS CALKING ASSY CHASSIS CALKING ASSY CHASSIS CALKING ASSY CHASSIS CALKING ASSY	
6 7	2A 1B		A10-4239-22 A10-4240-82	CHASSIS CHASSIS CALKING ASSY	
C1			C90-2945-05	ELECTRO 0.047F 5.5WV	
9 10 11 12 13	2B 1A 2B 1B 2A	*	D10-4018-23 D10-4293-03 D10-4020-33 D10-4022-34 D10-4023-14	ARM ARM LEVER ARM SLIDER ASSY	
14 15 16 17 18	1B 3A 2A 3B 2B		D10-4025-03 D10-4026-03 D10-4027-04 D10-4029-04 D10-4032-13	SLIDER LEVER LEVER ASSY SLIDER ASSY SLIDER	
19 20 21 22 23	1B 2B 1B 1A 1A		D10-4137-03 D12-0618-13 D12-0619-33 D13-1251-14 D13-1252-04	LEVER CAM CAM GEAR GEAR	
24 25 26 27 28	1A 2A 2B 1B 1A		D13-1253-04 D13-1254-04 D13-1255-24 D13-1256-04 D13-1257-14	GEAR GEAR GEAR GEAR GEAR ASSY	
29 30 31 32 33	2A 2B 3A 3A 3A		D13-1259-04 D13-1262-34 D13-1263-04 D13-1264-04 D13-1265-04	GEAR GEAR WORM GEAR GEAR	

Ref.No.	A d d	N e w	Parts No.	Description	Dest inati on
34 35 36 37 41	2B 2B 2A 2B 3B		D13-1266-04 D13-1338-04 D19-0614-24 D19-0615-14 D39-0225-05	GEAR GEAR LEAD SCREW CLUTCH ASSY DAMPER	
FC1 FC2	3B 3B		E39-0172-15 E39-0173-15	FLAT CABLE FLAT CABLE	
43 44	2A 2A		F09-1220-04 F09-1245-04	SHEET SHEET	
45 46 47 48 49	2B 2B 2A 3B 1B		G01-2778-04 G01-2779-04 G01-2781-04 G01-2782-14 G01-2783-14	TORSION COIL SPRING TORSION COIL SPRING COMPRESSION SPRING TORSION COIL SPRING EXTENSION SPRING	
50 51 52 53 54	3A 3A 1B 2A 3B		G01-2784-04 G01-2785-04 G01-2789-14 G01-2808-04 G01-2809-14	EXTENSION SPRING EXTENSION SPRING EXTENSION SPRING EXTENSION SPRING EXTENSION SPRING	
55 57 58 59 60	1B 2A 1A 2B 2B		G01-2814-24 G02-1235-24 G02-1256-14 G02-1237-13 G02-1238-34	TORSION COIL SPRING FLAT SPRING FLAT SPRING FLAT SPRING FLAT SPRING	
62 64	3A 2B		G02-1240-04 G10-1023-04	FLAT SPRING FELT	
65 66 67 68 69	2B 2A 3B 3A 1B		J11-0614-03 J21-7695-04 J21-7696-23 J21-7698-14 J21-7766-13	CLAMPER MOUNTING HARDWARE MOUNTING HARDWARE MOUNTING HARDWARE MOUNTING HARDWARE	
71 72 73 FPC1	2B 2B 2B 2A		J90-0777-23 J90-0759-03 J90-0760-03 J84-0099-05	GUIDE GUIDE RAIL FLEXIBLE PRINTED WIRING BOARD	
A B C D E	1B 3B 3A 2B 2A		N09-4126-05 N09-4288-05 N86-2005-46 N09-4189-05 N09-4154-05	MACHINE SCREW (2X3.5,C) TAPTITE SCREW (2X2.5 S) BINDING HEAD TAPTITE SCREW TAPTITE SCREW (1.7X1.5) TAPTITE SCREW	
F G J K L	1A 2A 2B 2B 1B		N09-4181-05 N39-1722-46 N19-2105-14 N19-2058-04 N19-2080-14	MACHINE SCREW (M1.7X3) PAN HEAD MACHIN SCREW FLAT WASHER FLAT WASHER FLAT WASHER	
M	1A		N19-2028-04	FLAT WASHER	
75	3B		R33-0201-05	SLIDE TYPE VARIABLE RESISTOR	
M1 M2,3 PU1	2A 3A 2A		T42-0797-04 T42-0788-05 T25-0216-05	MOTOR ASSY DC MOTOR OPTICAL PICKUP HEAD	
Q15			2SB1565(E,F)	TRANSISTOR	

K3: USA M3: Other Areas

 indicates safety critical components.



## PARTS LIST

\* New Parts

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## RF MODULATOR

Ref.No.	A d d	N e w	Parts No.	Description	Dest inati on
<b>RF MODULATOR</b>					
401	1F	*	A01-2723-08	CASE	
403	1E		B07-2138-08	HOLDER ASSY	
408	1E		W01-0763-08	MAGICTAPE ASSY	
C1			C90-2583-05	ELECTRO 1000UF 16WV	
C2			CK73FB1H223K	CHIP C 0.022UF K	
C3			CE04NW1H4R7M	ELECTRO 4.7UF 50WV	
C6			CE04NW1C100M	ELECTRO 10UF 16WV	
C7			CE04NW1H010M	ELECTRO 1UF 50WV	
C8			CK73FB1H102K	CHIP C 1000PF K	
C9 ,10			CK73FB1H103K	CHIP C 0.010UF K	
C11 ,12			CC73FCH1H220J	CHIP C 22PF J	
C13 -17			CK73FB1H102K	CHIP C 1000PF K	
C19			CE04DW1A101M	ELECTRO 100UF 10WV	
C20			CE04DW1E221M	ELECTRO 220UF 25WV	
C24			CE04DW1C471M	ELECTRO 470UF 16WV	
C30			CE04DW1A102M	ELECTRO 1000UF 10WV	
C31			CE04DW1A221M	ELECTRO 220UF 10WV	
C32			CE04DW1A101M	ELECTRO 100UF 10WV	
C33			C90-2583-05	ELECTRO 1000UF 16WV	
C34			CE04NW1H010M	ELECTRO 1UF 50WV	
C35			CK73FB1H103K	CHIP C 0.01UF K	
C36			C90-2689-05	ELECTRO 3300UF 16WV	
C103			CK73FB1H103K	CHIP C 0.01UF K	
C104			CE04NW1C100M	ELECTRO 10UF 16WV	
C105			CE04DW1A221M	ELECTRO 220UF 10WV	
C106			CE04NW1C100M	ELECTRO 10UF 16WV	
C107			CC73FCH1H271J	CHIP C 270PF J	
C108			CK73FB1H102K	CHIP C 1000PF K	
C109,110			CK73FF1H104Z	CHIP C 0.10UF Z	
C111			CE04NW1H010M	ELECTRO 1UF 50WV	
C112			CK73FB1H332K	CHIP C 3300PF K	
C113			CC73FCH1H181J	CHIP C 180PF J	
C114			CK73FB1H153KTA	CHIP C 0.015UF K	
C115			CK73FB1H682K	CHIP C 6800PF K	
C203			CK73FB1H103K	CHIP C 0.01UF K	
C204			CE04NW1C100M	ELECTRO 10UF 16WV	
C205			CE04DW1A221M	ELECTRO 220UF 10WV	
C206			CE04NW1C100M	ELECTRO 10UF 16WV	
C207			CC73FCH1H271J	CHIP C 270PF J	
C208			CK73FB1H102K	CHIP C 1000PF K	
C209,210			CK73FF1H104Z	CHIP C 0.10UF Z	
C211			CE04NW1H010M	ELECTRO 1UF 50WV	
C212			CK73FB1H332K	CHIP C 3300PF K	
C213			CC73FCH1H181J	CHIP C 180PF J	
C214			CK73FB1H153KTA	CHIP C 0.015UF K	
C215			CK73FB1H682K	ELECTRO 6800PF 50WV	
C301			CE04NW1C100M	ELECTRO 10UF 16WV	
C302			CK73FB1H103K	CHIP C 0.010UF K	
C304			CC73FCH1H100D	CHIP C 10PF D	
C305			CK73FB1H103K	CHIP C 0.010UF K	
C306			CC73FCH1H221J	CHIP C 220PF J	
C308			CK73FB1H333K	CHIP C 0.033UF K	
C310			CC73FCH1H330J	CHIP C 33PF J	

Ref.No.	A d d	N e w	Parts No.	Description	Dest inati on
C312			CK73FB1H103K	CHIP C 0.010UF K	
C314			CE04NW1HR22M	ELECTRO 0.22UF 50WV	
C315			CE04DW1A101M	ELECTRO 100UF 10WV	
C316			CK73FB1H103K	CHIP C 0.010UF K	
C317			CE04NW1H2R2M	ELECTRO 2.2UF 50WV	
C318,319			CK73FB1H103K	CHIP C 0.010UF K	
C320			CC73FCH1H181J	CHIP C 180PF J	
C321			CE04NW1H010M	ELECTRO 1UF 50WV	
C322			CC73FUJ1H221J	CHIP C 220PF J	
C323			CC73FUJ1H680J	CHIP C 68PF J	
C324			CC73FUJ1H150J	CHIP C 15PF J	
C325			CK73FB1H103K	CHIP C 0.010UF K	
C326			CE04DW1E470M	ELECTRO 47UF 25WV	
C327			CC73FUJ1H150J	CHIP C 15PF J	
C328			CC73FCH1H020C	CHIP C 2.0PF C	
C329			CC73FCH1H150J	CHIP C 15PF J	
C330			CK73FB1H103K	CHIP C 0.010UF K	
C331			CC73FCH1H010C	CHIP C 1.0PF C	
C332			CC73FCH1H050C	CHIP C 5.0PF C	
C333,334			CC73FCH1H330J	CHIP C 33PF J	
C335			CE04NW1H4R7M	ELECTRO 4.7UF 50WV	
C336			CK73FB1H222K	CHIP C 2200PF K	
C338			CC73FCH1H050C	CHIP C 5PF C	
CN101	2J		E56-0811-05	CONNECTOR (8P)	
CN102	2J		E56-0805-15	CONNECTOR (13P)	
CN104,105			E40-3237-05	PIN ASSY	
VC301			C05-0513-08	TRIMMER 20P	
AT1	1E		E30-4310-08	ANTENNA CORD ASSY	
DC1	1E		E30-4733-08	DC CORD	
F1 ,2	2E		F06-3026-05	FUSE (3A)	
L1			L33-0934-08	CHOKING COIL	
L301			L33-1043-08	SMALL FIXED INDUCTOR (0.22uH)	
L302,303			L33-0976-08	SMALL FIXED INDUCTOR (2.2uH)	
L304			L33-1043-08	SMALL FIXED INDUCTOR (0.22uH)	
L305			L33-1042-08	SMALL FIXED INDUCTOR (0.12uH)	
X301			L77-2716-08	CRYSTAL RESONATOR (38KHz)	
X302			L77-2062-08	CRYSTAL RESONATOR (4.5MHz)	
V	1F		N09-4207-08	SCREW (3X6,Ni-B)	
W	3F		N09-4206-08	SCREW (for CN102 x2)(3X8)	
R1			RD14BB2C242J	RD 2.4K J 1/6W	
R2			RD14BB2C222J	RD 2.2K J 1/6W	
R6			RK73FB2A223J	CHIP R 22K J 1/10W	
R7			R92-2148-08	CHIP R 22 J 2W	
R8			RD14BB2C223J	RD 22K J 1/6W	
R9			RD14BB2C222J	RD 2.2K J 1/6W	
R11			RD14BB2C102J	RD 1.0K J 1/6W	
R12			RD14BB2C103J	RD 10K J 1/6W	
R13			RD14BB2C104J	RD 100K J 1/6W	
R14			RD14BB2C332J	RD 3.3K J 1/6W	
R15			RD14BB2C104J	RD 100K J 1/6W	
R16			RD14BB2C332J	RD 3.3K J 1/6W	
R17			RD14BB2C102J	RD 1K J 1/6W	
R18			RK73FB2A104J	CHIP R 100K J 1/10W	

K3: USA M3: Other Areas

⚠ indicates safety critical components.

PARTS LIST

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Ref.No.	A d d	N e w	Parts No.	Description			Dest inati on
R19			RD14BB2C332J	RD	3.3K	J 1/6W	
R20			RD14BB2C102J	RD	1K	J 1/6W	
R21			RD14BB2C472J	RD	4.7K	J 1/6W	
R22 ,23			RD14BB2C102J	RD	1.0K	J 1/6W	
R24			RD14BB2C472J	RD	4.7K	J 1/6W	
R25 ,26			RD14BB2C102J	RD	1.0K	J 1/6W	
R27 ,28			RK73FB2A103J	CHIP R	10K	J 1/10W	
R31			RK73FB2A473J	CHIP R	47K	J 1/10W	
R33			RK73FB2A473J	CHIP R	47K	J 1/10W	
R34			RK73FB2A182J	CHIP R	1.8K	J 1/10W	
R35			RK73FB2A151J	CHIP R	150	J 1/10W	
R102			RK73FB2A152J	CHIP R	1.5K	J 1/10W	
R103			RK73FB2A682J	CHIP R	6.8K	J 1/10W	
R104			RK73FB2A103J	CHIP R	10K	J 1/10W	
R105-108			R92-0363-05	CHIP R	10K	F 1/10W	
R109			RK73FB2A182J	CHIP R	1.8K	J 1/10W	
R110			RK73FB2A391J	CHIP R	390	J 1/10W	
R111			RK73FB2A102J	CHIP R	1.0K	J 1/10W	
R112			RK73FB2A753J	CHIP R	75K	J 1/10W	
R114-116			RK73FB2A682J	CHIP R	6.8K	J 1/10W	
R202			RK73FB2A152J	CHIP R	1.5K	J 1/10W	
R203			RK73FB2A682J	CHIP R	6.8K	J 1/10W	
R204			RK73FB2A103J	CHIP R	10K	J 1/10W	
R205-208			R92-0363-05	CHIP R	10K	D 1/10W	
R209			RK73FB2A182J	CHIP R	1.0K	J 1/10W	
R210			RK73FB2A391J	CHIP R	390	J 1/10W	
R212			RK73FB2A753J	CHIP R	75K	J 1/10W	
R214-216			RK73FB2A682J	CHIP R	6.8K	J 1/10W	
R301			RK73FB2A154J	CHIP R	150K	J 1/10W	
R302			RK73FB2A123J	CHIP R	12K	J 1/10W	
R306			RK73FB2A103J	CHIP R	10K	J 1/10W	
R307			RK73FB2A472J	CHIP R	4.7K	J 1/10W	
R308			RK73FB2A154J	CHIP R	150K	J 1/10W	
R314			RK73FB2A473J	CHIP R	47K	J 1/10W	
R316			RK73FB2A122J	CHIP R	1.2K	J 1/10W	
R317			RK73FB2A242J	CHIP R	2.4K	J 1/10W	
R318			RK73FB2A332J	CHIP R	2.7K	J 1/10W	
R319			RD14BB2C122J	RD	1.2K	J 1/6W	
R320			RK73FB2A103J	CHIP R	10K	J 1/10W	
R322			RD14BB2C472J	RD	4.7K	J 1/6W	
R323			RK73FB2A471J	CHIP R	470	J 1/10W	
R325,326			RK73FB2A223J	CHIP R	22K	J 1/10W	
R327			RK73FB2A473J	CHIP R	47K	J 1/10W	
R328			RK73FB2A271J	CHIP R	270	J 1/10W	
R329			RK73FB2A470J	CHIP R	47	J 1/10W	
R330			RK73FB2A331J	CHIP R	330	J 1/10W	
R331			RK73FB2A473J	CHIP R	47K	J 1/10W	
R332			RK73FB2A101J	CHIP R	100	J 1/10W	
R333			RK73FB2A470J	CHIP R	47	J 1/10W	
R334			RK73FB2A472J	CHIP R	4.7K	J 1/10W	
R335			RK73FB2A8R2J	CHIP R	8.2	J 1/10W	
R337,338			RK73FB2A472J	CHIP R	4.7K	J 1/10W	
R339,340			RK73FB2A391J	CHIP R	390	J 1/10W	
R343			RK73FB2A101J	CHIP R	100	J 1/10W	
R346			RK73FB2A472J	CHIP R	4.7K	J 1/10W	

RF MODULATOR							DISPLAY UNIT	
Ref.No.	A d d	N e w	Parts No.	Description			Dest inati on	
R348			RK73FB2A224J	CHIP R	220K	J 1/10W		
VR301			R32-0208-08	TRIMING POT.	33K(B)			
VR303			R32-0207-08	TRIMING POT.	10K(B)			
RL1			S76-0802-08	MAGNET RELAY				
D1			DSK10C-ET1	DIODE				
D2			DSK10C-BT	DIODE				
D5			DSK10C-ET1	DIODE				
D8 -9			1SS131	DIODE				
D12 ,13			1SS131	DIODE				
D14			DSK10C-ET1	DIODE				
D15			DSK10C-BT	DIODE				
D16			1SS131	DIODE				
D101			DA204K	DIODE				
D201			DA204K	DIODE				
D302			DA204K	DIODE				
IC1			UPC7805AHF	IC(VOLTAGE REGULATOR/ +5V)				
IC2			LC72329-9274	IC (MICRO COMPUTER)				
IC4			NJM78L05UA	IC(VOLTAGE REGULATOR/ +5V)				
IC101			NJM2060M	IC(OP AMP X4)				
IC102			NJM4565MD	IC(OP AMP X2)				
IC301			BA1405F	IC (MPX)				
IC302			NJM4565MD	IC(OP AMP X2)				
Q1			DTC124EK	DIGITAL TRANSISTOR				
Q2			2SA1782(T,U)	TRANSISTOR				
Q3			DTC124EK	DIGITAL TRANSISTOR				
Q4 ,5			DTC143TK	DIGITAL TRANSISTOR				
Q6			DTA124EK	DIGITAL TRANSISTOR				
Q8			DTC143TK	DIGITAL TRANSISTOR				
Q9			2SC4640T/U	TRANSISTOR				
Q10			12SK2158	FET				
VD301			HVU306A-3	VARIABLE DIODE				
ZD1 -7			MTZ6.2J(B)	ZENER DIODE				
Q201			2SK2158	FET				
Q303			2SA1162(GR)	TRANSISTOR				
Q304,305			2SK2158	FET				
Q306			2SK508L	FET				
Q307			2SC2714(Y)	TRANSISTOR				
Q308-310			2SK2158	FET				
DISPLAY UNIT								
502	2E		A02-1460-08	FRONT CASE				
503	3E		A02-1446-08	REAR CASE				
511	2E		B10-3055-08	FRONT GLASS ASSY				
LCD1	3E		B38-0643-08	LCD				
LED1-18			B30-1459-08	LED				
C1			C92-0047-05	CHIP-ELE	47UF	6.3WV		
C2			CK73GB1H681K	CHIP C	680PF	K		
C3			C92-0037-05	CHIP-ELE	10UF	16WV		
C4 ,5			CK73FB1H223KTA	CHIP C	0.022UF	K		
CN1	3E		E30-4309-08	DIN CORD ASSY (8P)				
541	3E		K25-0713-08	KNOB (REP, RDM, PLAY/PAUSE)				
542	2E		K29-5576-08	KNOB ASSY (PWR, RESET)				
543	2E		K29-5585-08	KNOB (TRACK)				

## PARTS LIST

Teile ohne Parts No. werden nicht geliefert.

Ref.No.	A d d	N e w	Parts No.	Description	Dest inati on

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# KDC-C515FM

## SPECIFICATIONS

Specifications subject to change without notice.

### Disc section

Laser Diode .....	GaAlAs ( $\lambda=780$ nm)
Digital Filter .....	8 Times Over Sampling
D/A Converter .....	1 Bit
Spindle Speed .....	500 ~ 200 rpm (CLV)
Wow & Flutter .....	Below Measurable Limit
Modulating Frequency .....	87.7 ~ 89.9 MHz (200 kHz step)

### General

Operating Voltage .....	14.4 V (11 ~ 16 V)
Current Consumption .....	1.4 A
Operating Temperature .....	-10 ~ 50 C°
Size (CD Changer) .....	250W × 80H × 176D mm (9-13/16W × 3-1/8H × 6-13/16D in.)
(Display Unit) .....	105W × 40H × 18D mm (4-1/8W × 1-9/16H × 11/16D in.)
(Hide=Away Unit) .....	150W × 30H × 80D mm (5-7/8W × 1-3/16H × 3-1/8D in.)
Weight (Changer Main Unit) .....	2.0 kg (4.4 LBS)
(Display Unit) .....	0.125 kg (0.28 LBS)
(Hide-Away Unit) .....	0.600 kg (1.3 LBS)

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